

REMARKS/ARGUMENTS

Status of the Claims

Upon entry of the present amendment, claims 1-7, 24-44 and 46-47 are pending. Claims 1-7 and 28-44 are withdrawn as directed to a non-elected invention. Claims 1-3, 24 and 46-47 are amended. Claim 45 is canceled without disclaimer or prejudice to renewal.

Claims 1-3 are amended to be of commensurate scope with claims 24-27.

Claim 24 is amended to delete "of an amino acid sequence" of SEQ ID NO:16.

Claim 46 is amended to be an independent claim, to recite that the fucosyltransferase protein is identical to a *Helicobacter pylori* fucosyltransferase protein, and that the fucosyltransferase catalyzes the transfer of a fucose residue from a donor substrate to an acceptor substrate. Support is found, for example, in paragraph 0046 on page 9, line 29 through page 10, line 3 and in paragraph 0068 on page 16, lines 8-33.

Claim 47 is amended to depend from claim 24 and to delete "of an amino acid sequence" of SEQ ID NO:16.

No new matter is added by the present amendments and the Examiner is respectfully requested to enter them.

Allowable Subject Matter

The Examiner is thanked for indicating the allowability of claim 26 if rewritten in independent form.

Request for Rejoinder

Applicants acknowledge that claims 1-7 and 28-44 are presently withdrawn from examination. The Examiner is thanked for reminding Applicants, that upon a determination of allowable subject matter of the product claims, the process claims will be entered as a matter of right if the process claims depend from or otherwise include all of the limitations of the patentable product. Therefore, pursuant to M.P.E.P. § 821.04, Applicants have amended claims 1, 31 and 44 to be commensurate in scope with claims 24-27.

Rejections under 35 U.S.C. § 102

U.S. Patent No. 6,962,806

The Examiner has maintained the rejection of claims 24-25 and 27 under 35 U.S.C. § 102(e) as allegedly anticipated by U.S. Patent No. 6,962,806 ("the '806 patent"). The Examiner is thanked for indicating that amendment of the claims to recite the phrase used to traverse the earlier rejection over this patent could obviate this rejection. Applicants do not necessarily agree with the Examiner's position. However, in the interest of furthering prosecution, Applicants have amended claim 24 to delete the phrase "an amino acid sequence of" objected to by the Examiner. The '806 patent does not disclose or suggest an isolated fucosyltransferase protein comprising a polypeptide that has greater than 90% identity to the full length of SEQ ID NO:16, wherein the fucosyltransferase catalyzes the transfer of a fucose residue from a donor substrate to an acceptor substrate. Accordingly, the Examiner is respectfully requested to withdraw this rejection.

U.S. Patent Publication No. 2002/0164749

The rejection of claims 24 and 27 under 35 U.S.C. § 102(b or e) as being anticipated by U.S. Appl. No. 10/120,319, published as U.S. Patent Publication No. 2002/0164749, now issued as U.S. Patent No. 7,166,449 ("the '449 patent") has been maintained.

The Examiner is thanked for indicating that amendment of the claims to recite the phrase used to traverse the earlier rejection over this patent could obviate this rejection. Applicants do not necessarily agree with the Examiner's position. However, in the interest of furthering prosecution, Applicants have amended claim 24 to delete the phrase "an amino acid sequence of" objected to by the Examiner. The '449 patent specification is the same as the '806 patent specification. The '449 patent does not disclose or suggest an isolated fucosyltransferase protein comprising a polypeptide that has greater than 90% identity to the full length of SEQ ID NO:16, wherein the fucosyltransferase catalyzes the transfer of a fucose residue from a donor

substrate to an acceptor substrate. Accordingly, the Examiner is respectfully requested to withdraw this rejection.

Rasko, *J. Biol. Chem.* (2000) 275:4988-4994

The Examiner has maintained the rejection of claims 24, 25 and 27 under 35 U.S.C. § 102(b) as allegedly anticipated by Rasko, *J. Biol. Chem.* (2000) 275:4988-4994 ("Rasko"). The Examiner is thanked for indicating that amendment of the claims to recite the phrase used to traverse the earlier rejection over this publication could obviate this rejection. Applicants do not necessarily agree with the Examiner's position. However, in the interest of furthering prosecution, Applicants have amended claim 24 to delete the phrase "an amino acid sequence of" objected to by the Examiner. Rasko does not disclose or suggest an isolated fucosyltransferase protein comprising a polypeptide that has greater than 90% identity to the full length of SEQ ID NO:16, wherein the fucosyltransferase catalyzes the transfer of a fucose residue from a donor substrate to an acceptor substrate. Accordingly, the Examiner is respectfully requested to withdraw this rejection.

U.S. Patent No. 6,534,298

The Examiner has newly rejected claims 24, 45 and 47 under 35 U.S.C. § 102(b) as allegedly anticipated by U.S. Patent No. 6,534,298. Applicants do not necessarily agree with the Examiner's position. However, in the interest of furthering prosecution, Applicants have amended claim 24 to delete the phrase "an amino acid sequence of" objected to by the Examiner, amended claim 47 to depend from claim 24, and deleted claim 45. The '298 patent specification is the same as the '806 and the '449 patent specifications. The '298 patent does not disclose or suggest an isolated fucosyltransferase protein comprising a polypeptide that has greater than 90% identity to the full length of SEQ ID NO:16, wherein the fucosyltransferase catalyzes the transfer of a fucose residue from a donor substrate to an acceptor substrate, as recited in claim 24. The '298 patent does not disclose or suggest an isolated fucosyltransferase protein comprising a polypeptide that has greater than 95% identity to the full length of SEQ ID NO:16, wherein the

fucosyltransferase catalyzes the transfer of a fucose residue from a donor substrate to an acceptor substrate, as set forth in claim 47. Accordingly, the Examiner is respectfully requested to withdraw this rejection.

WO 98/55630

The Examiner has newly rejected claims 24, 45 and 47 under 35 U.S.C. § 102(b) as allegedly anticipated by WO 98/55630 ("the '630 publication"). Applicants do not necessarily agree with the Examiner's position. However, in the interest of furthering prosecution, Applicants have amended claim 24 to delete the phrase "an amino acid sequence of" objected to by the Examiner, amended claim 47 to depend from claim 24, and deleted claim 45. The disclosure of the '630 publication is the same as the '806, the '298 and the '449 patent specifications. The '630 publication does not disclose or suggest an isolated fucosyltransferase protein comprising a polypeptide that has greater than 90% identity to the full length of SEQ ID NO:16, wherein the fucosyltransferase catalyzes the transfer of a fucose residue from a donor substrate to an acceptor substrate, as recited in claim 24. The '630 publication does not disclose or suggest an isolated fucosyltransferase protein comprising a polypeptide that has greater than 95% identity to the full length of SEQ ID NO:16, wherein the fucosyltransferase catalyzes the transfer of a fucose residue from a donor substrate to an acceptor substrate, as recited in claim 47. Accordingly, the Examiner is respectfully requested to withdraw this rejection.

Double Patenting

U.S. Patent No. 6,962,806

The Examiner has maintained the obviousness-type double patenting rejection of claims 24, 25 and 27 over claims 1-11 of U.S. Patent No. 6,962,806. The Examiner is thanked for indicating that amendment of the claims to recite the phrase used to traverse the earlier rejection over this patent could obviate this rejection. Applicants do not necessarily agree with the Examiner's position. However, in the interest of furthering prosecution, Applicants have amended claim 24 to delete the phrase "an amino acid sequence of" objected to by the Examiner.

The claims of the '806 patent do not disclose or suggest an isolated fucosyltransferase protein comprising a polypeptide that has greater than 90% identity to the full length of SEQ ID NO:16, wherein the fucosyltransferase catalyzes the transfer of a fucose residue from a donor substrate to an acceptor substrate. Accordingly, the Examiner is respectfully requested to withdraw this rejection.

U.S. Patent No. 7,166,449

The Examiner has maintained the obviousness-type double patenting rejection of claims 24 and 27 over claims 1, 2 and 9 of U.S. Patent Publication No. 2002/0164749, now issued as U.S. Patent No. 7,166,449. Applicants do not necessarily agree with the Examiner's position. However, in the interest of furthering prosecution, Applicants have amended claim 24 to delete the phrase "an amino acid sequence of" objected to by the Examiner. The claims of the '449 patent do not disclose or suggest an isolated fucosyltransferase protein comprising a polypeptide that has greater than 90% identity to the full length of SEQ ID NO:16, wherein the fucosyltransferase catalyzes the transfer of a fucose residue from a donor substrate to an acceptor substrate. Accordingly, the Examiner is respectfully requested to withdraw this rejection.

Rejection under 35 U.S.C. § 112, first paragraph, written description requirement

The Examiner has rejected claims 24-25, 27 and 45-47 under 35 U.S.C. § 112, first paragraph, as allegedly failing to comply with the written description requirement. To the extent that the present rejection applies to the present claims, this rejection is respectfully traversed.

According to M.P.E.P. § 2163.02, to satisfy the written description requirement, an applicant must convey with reasonable clarity to those skilled in the art that, as of the filing date sought, he or she was in possession of the invention. *Vas-Cath, Inc. v. Mahurkar*, 935 F.2d 1555, 1563-64, 19 USPQ2d 1111, 1117 (Fed. Cir. 1991). An applicant shows possession of the claimed invention by describing the claimed invention with all of its limitations using such descriptive means as words, structures, figures, diagrams, and formulas that fully set forth the

claimed invention. *Lockwood v. American Airlines, Inc.*, 107 F.3d 1565, 1572, 41 USPQ2d 1961, 1966 (Fed. Cir. 1997). Possession may be shown in a variety of ways including description of an actual reduction to practice, or by showing that the invention was “ready for patenting” such as by the disclosure of drawings or structural chemical formulas that show that the invention was complete, or by describing distinguishing identifying characteristics sufficient to show that the applicant was in possession of the claimed invention. See, e.g., *Regents of the University of California v. Eli Lilly*, 119 F.3d 1559, 1568, 43 USPQ2d 1398, 1406 (Fed. Cir. 1997); *Amgen, Inc. v. Chugai Pharmaceutical*, 927 F.2d 1200, 1206, 18 USPQ2d 1016, 1021 (Fed. Cir. 1991).

Applicants do not necessarily agree with the Examiner’s position. However, in the interest of furthering prosecution, Applicants have amended claim 24 to delete the phrase “an amino acid sequence of” objected to by the Examiner, amended claim 47 to depend from claim 24, and deleted claim 45. Further, Applicants have amended claim 46 to recite that the fucosyltransferase protein functionally catalyzes the transfer of a fucose residue from a donor substrate to an acceptor substrate.

The Examiner concedes that the application describes the highly conserved catalytic domains of the fucosyltransferase proteins of the invention. See, page 6 of the present Office Action. The fucosyltransferase proteins of amended claims 24-27 and 47 inherently contain a glycosyltransferase family 10 catalytic domain, because sequence identity is set forth over the full length of SEQ ID NO:16. Amended claim 46 sets forth that the fucosyltransferase protein is identical to a *Helicobacter pylori* fucosyltransferase protein that functionally catalyzes the transfer of a fucose residue from a donor substrate to an acceptor substrate. Therefore, the fucosyltransferase protein of claim 46 must also contain a functional catalytic domain.

The specification teaches that the alignments with the highly conserved glycosyltransferase family 10 catalytic domain motif conducted for the *H. pylori* fucosyltransferase proteins 1182 futB, 1111 futA, 1218 futB, and 19C2 futB in Figures 8-11 can also be performed with the fucosyltransferase protein 1111 futB (SEQ ID NO:16). See, paragraph 0046 on page 9, line 29 through page 10, line 3 and paragraph 0068 at page 16, lines

19-24. An alignment between fucosyltransferase proteins 1111 futA (SEQ ID NO:4) and 1111 futB (SEQ ID NO:16) shows that they share about 80% amino acid sequence identity. The catalytic domain of SEQ ID NO:16 can be readily identified by alignment with the identified catalytic domain of SEQ ID NO:4, as taught in the specification. *See*, Exhibit A. Further, a BLAST analysis of SEQ ID NO:16 identifies this protein as comprising the highly conserved glycosyltransferase family 10 catalytic domain motif.

In view of the foregoing, the specification describes fucosyltransferase proteins commensurate with the fucosyltransferase proteins that are claimed. Those of skill would recognize that Applicants were in possession of the claimed fucosyltransferase proteins as of the January 22, 2004 filing date of the present application. Accordingly, the Examiner is respectfully requested to withdraw this rejection.

Claim Objections

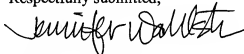
The Examiner objected to claim 47 for reciting "an amino acid of" SEQ ID NO:16. Applicants do not necessarily agree with the Examiner. However, Applicants have amended claim 47 to depend from claim 24 and to recite a polypeptide that has greater than 95% identity to the full length of SEQ ID NO:16. Accordingly, the Examiner is respectfully requested to withdraw this objection.

CONCLUSION

In view of the foregoing, Applicants believe all claims now pending in this Application are in condition for allowance and an action to that end is respectfully requested.

If the Examiner believes a telephone conference would expedite prosecution of this application, please telephone the undersigned at 415-576-0200.

Respectfully submitted,



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